

The Impact of Sensory Marketing on the Intention to Reuse Aviation Services of People in Hanoi City: The Case of Vietnam Airlines

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ABSTRACT

This paper examines the impact of each sensory element in Sensory Marketing on the intention to reuse Vietnam Airlines' services of people living in Hanoi city. In which, the authors test the direct impact of Brand Image along with the control variable of Demographic characteristics on the intention to reuse services. In addition, the reuse intention is also indirectly influenced by each sensory element (visual, auditory, olfactory, gustatory, and tactile) in Sensory Marketing with brand image as a mediating variable. This research presented the results of qualitative and quantitative empirical research in Hanoi city from December 9, 2021 to February 9, 2022 to test the theoretical model as well as the research hypotheses proposed by the authors. The study results demonstrated that sensory factors such as visual (0.682), tactile (0.214), olfactory (0.185), auditory (0.128), and gustatory (0.117) have an indirect positive impact on the intention to reuse aviation services of Vietnam Airlines through brand image. Besides, the intention to reuse the services was also positively and directly affected by the brand image (0.247).

Keywords: Aviation, Vietnam Airlines, Sensory marketing, Brand image, Brand experience, Demographics, Reuse intention.

1. Rationale

Aviation is an industry of particular importance, not only in economic development but also in security, military, and national sovereignty. Vietnamese aviation industry has been transformed into a spearhead in tourism both domestically and internationally over the last ten years. In order to research with greater precision and practicality, the team chose Vietnam Airlines as the primary research object.

Vietnam Airlines has made significant contributions to promoting aviation services thanks to its advanced fleet, extensive flight network, and favorable connection schedule, especially in Asia. As a result, Vietnam Airlines consistently affirms the top class and worthy of being the Vietnamese National Airline. This widespread recognition comes from the flight network and aircraft quality, the marketing strategies in general, and the Sensory Marketing approaches of Vietnam Airlines in particular.

According to Philip Kotler, Marketing is a form of human activity to satisfy their needs and wants through exchange. Marketing brings services and products closer to consumers and convinces them to make purchasing decisions. Therefore, Marketing plays a crucial role in the relationship between customers and businesses, especially when society develops more fiercely and personalized.

Besides, to build a brand image and make customers feel comfortable when using the service, Vietnamese businesses need to access many different forms of marketing imperatively, in which using Sensory Marketing makes it easier for customers to access the business' services and products (Gatchalian, 1999) [1]. However, most aviation businesses in Vietnam just applied Sensory Marketing unconsciously, unprofessionally and randomly without fully understanding and focusing on this Marketing method and its benefits.

Furthermore, there have been no Vietnamese and global studies suggesting standard models or scales related to the application of Sensory Marketing in the aviation industry, nor has there been any research in Vietnam exploring the impact of each sensory element on the intention to reuse aviation services through the brand image with the subject of people living in Hanoi city. In addition, only a few studies assessed the impact of brand image and demographic characteristics on service reuse intention. However, these studies had not examined any specific industry. Thereby, to fill the existing gap of previous studies, the research team decided to analyze the impact of Sensory Marketing on the intention to reuse Vietnam Airlines's services of customers in Hanoi city, with the mediator being the brand image. Based on the research results, the team will propose several solutions to strengthen and promote the effectiveness of Sensory Marketing strategies, helping to improve brand image and improve service reuse rate of customer's airlines.

2. Theoretical Framework

Sensory Marketing

After synthesizing and analyzing the concepts introduced by previous scholars, the research team found that the concept of Sensory Marketing introduced by Krishna (2015) [2] is the most suitable for this specific research. That is “Sensory marketing is a marketing strategy that engages the senses of consumers and influences their behavior”. Including: *Visual elements (SI)* are defined as in-flight images, colors, shapes, etc. received by passengers through their visual systems (eyes). *Auditory elements (HE)* are defined as in-flight sounds and noises received by passengers through their auditory systems (ears). *Olfactory elements (SM)* are defined as in-flight scents received by passengers through their olfactory systems (nose). *Gustatory elements (TA)* are defined as the flavors of in-flight food and drinks received by passengers through their gustatory systems (tongue). *Tactile elements (TO)* are defined as passengers' sensations when being exposed to in-flight tangible and intangible factors through their tactile systems (skin).

Brand Image (BI)

Based on the concepts given in preceding studies, the research team chose the definition that “Brand image is a set of brand perceptions in the consumer's memory” by Keller (1993) [3]. Thus, in this study, brand image is described as the perception of the airline in the minds of passengers.

Reuse Intention (IN)

After considering the research subject, object and scope of the study, the authors decided to choose the concept of reuse intention presented by Tuu, Anh, Olsen & Vassdal (2010) [4]. Therefore, in this study, reuse intention is defined as passengers' commitment to reuse the airline's services and the probability of them reusing the airline's services.

The impact of Sensory Marketing on brand image

Krishna (2012) [5] revealed that human senses are connected with emotions, and thereby, influencing consumer behavior through memory. This can create positive feelings, create values for customer experiences, and especially establish brand image (Hultén, 2011) [6].

Besides, there are quite many studies indicating the positive effect of Sensory Marketing on brand image. In the context of Vietnam, the research team continues to inherit and promote the existing works to analyze whether the impact of each sensory element on the brand image of Vietnam Airlines is positive or not. Thus, the authors summarize and identify the role of each sensory element in the brand image as follows:

First, *the impact of visual elements on brand image*. Vision is the most powerful sense because the resonance relationship between the brain and the eyes is considered superior to any apparatus ever invented (Winter & Winter, 2003) [7]. Vision often overwhelms other senses, so it has been by far the most utilized in Sensory Marketing (Lindström, 2005) [8]. The visual elements that shape a brand include logos, design, use of colors, and lighting. Therefore, the following hypothesis is made:

Hypothesis H1: Visual elements have a positive impact on the airline's brand image.

Second, *the impact of auditory elements on brand image*. Along with sight, the sound is a traditional element in the branding process (Lindström, 2005) [8]. In another study on the influence of Sensory Marketing on consumer responses, Rieunier (2009) [9] reported that the presence of music at the time of purchase has become imperative in recent years because customers' emotions directly affect the store atmosphere and brand image. Thus, the authors propose the next hypothesis as follows:

Hypothesis H2: The auditory elements have a positive impact on the airline's brand image.

Third, *the impact of olfactory elements on brand image*. In reality, the ambient scent is known as a factor influencing perception and memory of brand and product (Cirrincione et al., 2014 [10]; Guéguen & Petr, 2006 [11]), even when associations with a particular scent are difficult to create (Mattila & Wirtz, 2001 [12]). As a result, a brand's reputation and value can be significantly enhanced through Sensory Marketing using the sense of smell. According to Olahut & Plaias (2012) [13], the impact of scents on consumer behavior is described as a stimulating factor leading to the creation of a holistic image of the brand; therefore, scents can help marketers determine the approach or avoidance response of customers. Thus, it is essential to develop a clear and consistent brand identity through scent to create a good impression for the brand. Based on that, the authors hypothesize the following:

Hypothesis H3: Olfactory elements have a positive impact on the airline's brand image.

Fourth, *the impact of gustatory elements on brand image*. In an empirical evidence on the relationship between gustatory elements and brand image, Hussain (2018) [14] demonstrated that food taste has a positive effect on brand image and it can also be the defining factor directly related to a brand's competitive advantage over others. In a similar context, Lau (2017) [15] also mentioned in their study that food variety has a significant impact on tourist destination image. Based on the conclusions of previous studies, it can be seen that the gustatory elements influence the brand image in the customer's mind. In the context of Vietnam Airlines, the research team proposes the following hypothesis to evaluate the influence of gustatory elements on brand image as follows:

Hypothesis H4: Gustatory elements have a positive impact on the airline's brand image.

Fifth, *the impact of tactile elements on brand image*. The skin is the largest sense organ of the human body as it covers nearly every part of the body, and the hands are the main body part through which a person can perceive

sensations (Perumal, Ali & Shaarih, 2021) [16]. According to a research by Yoganathan, Osburg & Akhtar (2019) [17], tactile cues influence consumer perception. In another empirical study, researchers found that airline image is significantly affected by temperature and air quality (Suh, Moon, Han & Ham, 2015) [18]. Atmospheric factors that are environmental characteristics usually include factors such as air quality (dust-free, breathable, clean), temperature (dry, humid, hot, cold) (Bitner, 1992 [19]; Han & Ryu, 2009 [20]; Rosenbaum & Massiah, 2011 [21]; Ryu & Jang, 2007 [22]). These ambient elements in a service context often stimulate a customer's ability to use a product or service and contribute to forming a positive attitude towards that product or service. For the airline service business, the authors find that tactile factors such as seat comfort, the spaciousness of legroom on the plane, etc., have an impact on the guest experience and at the same time, contribute to creating a good brand image. Therefrom, the research team hypothesized to evaluate the influence of tactile elements on the airline's brand image as follows:

Hypothesis H5: The tactile elements have a positive impact on the airline's brand image.

The impact of brand image on reuse intention

According to Wijaya (2013) [23], almost all products are branded and almost all companies have difficulty developing and maintaining their brand reputation. An important element in the brand development process is brand image building. The higher the consumer's perception of the brand image, the greater the consumer's intention to reuse the brand (Chen & Hsieh, 2011 [24]). In other words, a brand with a positive image in the minds of consumers will have a higher chance of being reused by consumers than a brand with a poor brand image. Arif (2019) [25] recognized that an impressive brand image would arouse emotions and beliefs in customers, and at the same time, convey the core values of the brand, and as such, have a positive influence on the intention to reuse the service. Furthermore, Hu, Kandampully & Juwaheer (2009) [26] found that a positive brand image in the tourism industry is an important factor for tourists to repurchase and reuse services. In the context of airlines, Park et al. (2004) [27] revealed that customers with a positive image of the airline are more likely to use the airline's services again. Similar results were also reported by Geraldine (2013) [28] who found that among airline customers, airline image has a positive relationship with repeat purchase behavior of passengers. Therefrom, the next hypothesis is put forward as follows:

Hypothesis H6: Brand image has a positive effect on passengers' reuse intention of the airline's services.

The control of demographic characteristics over reuse intention

According to the Oxford Dictionary (2012), the concept of Demographics is “the study of statistics such as births, deaths, incomes or the incidence of diseases, illustrating the structural changes of the human population”. In his study evaluating the contribution of demographics to Marketing, Pol (1991) [29] stated that the use of demographic data in marketing research has a relatively long history. Over a long period of time, factors such as age, income, gender, race, ethnicity, migration, and socioeconomic status (social class) have been used as rational predictors of consumer behavior (Andreasen, 1966 [30]; Bearden, Teel & Durand, 1978 [31]; Martineau, 1958 [32]; McCann & Reibstein, 1985 [33]; Miller, 1955 [34]; Wolgast, 1958 [35]; Zeithaml, 1985 [36]). Specifically for the aviation

industry, the study on “The Impact of Demographics on Brand Preference for Low-Cost Airlines in the United Arab Emirates” by Dr. Alam at Amity University Dubai (2012) [37] argued that the demographic characteristics that make up the variables statistically generally include age, sex, nationality, race, marital status, income level, etc. Aviation is undeniably one of the most important forms of transportation in today's world, especially in the context of the gradual transition from “centralized isolation” to “the new normal” under the impact of the COVID-19 pandemic in Vietnam. Being aware of this and stemming from the desire to deeply understand the impact of demographic characteristics on passengers' intention to reuse Vietnam Airlines's service, the authors selected Demographics as a control variable including 5 factors: gender, age, educational level, occupation and income. Details as follows:

The control of gender over reuse intention

Social role theories indicate that men and women are fundamentally socialized in different ways (Eagly, 1987) [38]. Along with that, Diep & Sweeney (2008) [39], Fournier (1998) [40], Hwang et al. (2015) [41], Kolyesnikova et al. (2009) [42], Milman & Pizam (1988) [43], Otnes & McGrath (2001) [44], Yelkur & Chakrabarty (2006) [45] showed differences in purchasing decisions and behavior between males and females. In the theory of consumer behavior and tourism, gender is often a factor affecting the formation of customer intention (Hwang et al., 2015 [41]; Sharma, Chen & Luk, 2012 [46]). More specifically, in the field of tourism, Han et al. (2017) [47] determining the relationships between the attributes of bicycle tourism indicated that value, satisfaction, and behavioral intention are significantly influenced by gender. Therefore, the research team proposes the following hypothesis:

Hypothesis H7a: There are differences in the intention to reuse the airline's services among different genders.

The control of age over reuse intention

Studies focusing on the effects of gender and age in the existing tourism literature show that these are the two main constituents of customer characteristics, which play an important role in influencing customer decision-making and behavior (Prud'homme & Raymond, 2013 [48]; Shang, Basil & Wymer, 2010 [49]). Age tends to be directly proportional to the degree of impact on reuse intention, the older the customers, the more influential age is on their repurchase intentions. While younger consumers may choose brands based on simple guesswork, older clients tend to make their choices more carefully (Richardson et al., 1996). [50]. Based on this, the authors hypothesize the following:

Hypothesis H7b: There are differences in intention to reuse the airline's services among different age groups.

The control of education level, occupation and income over reuse intention

In regards to education level, occupation, and income, people of different levels and living standards will have different experiences, leading to different intentions to reuse airline services. Choe & Zhao (2013) [51] revealed that high-income, married people, government servants and business customers are more sensitive to the brand; and therefore, brand promotion for them also becomes more effective. As for the low-cost airline segment, Bieger et al. (2006) [52] showed that the value customers receive when experiencing (customer value) no longer depends on the quality of transport but is becoming increasingly dependent on the price.

Thus, we have the next 3 hypotheses about the education level, occupation and income playing a vital role in explaining the variability of customers' intention to reuse the airline's services:

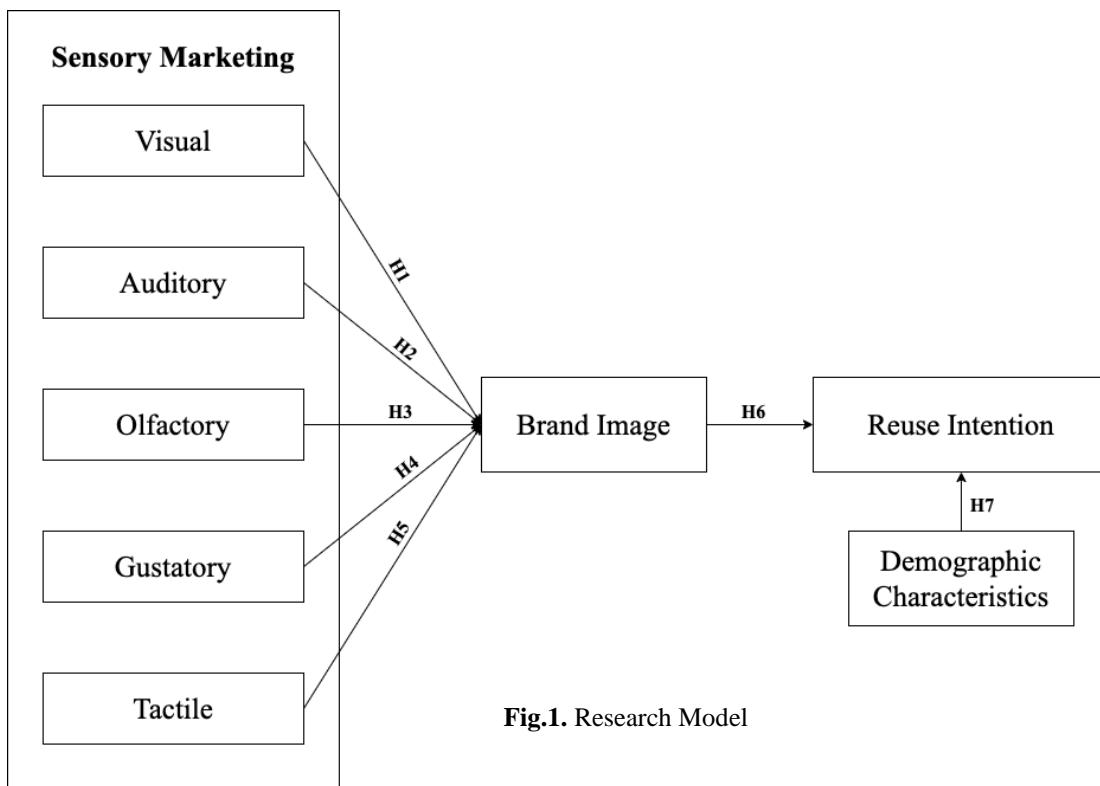
Hypothesis H7c: There are differences in the intention to reuse the airline's services among passengers with different educational levels.

Hypothesis H7d: There are differences in the intention to reuse the airline's services among passengers in different occupations.

Hypothesis H7e: There are differences in the intention to reuse the airline's services among passengers at different income levels.

Research model

Based on the theoretical background, the overview of previous studies combined with the above research hypotheses, the mediating variable was determined as Brand Image to test the measurement scales in Sensory Marketing. Moreover, the authors also measure whether these relationships have a strong or weak impact on passengers' intention to reuse the airline services. Therefrom, the model proposes scales for studying the impact of each sensory factor in Sensory Marketing on Brand Image and the impact of Brand Image along with Demographic variables on passenger's Reuse Intention of aviation services as follows:



Source: Results of the research team (2022)

3. Research Methodology

This study was conducted in two steps: preliminary research and official research. In which, preliminary research includes qualitative preliminary survey and quantitative preliminary survey; while the official study carried out an

official quantitative survey. More specifically, based on related models and theories combined with previous research in the field of Sensory Marketing, the authors have adjusted, supplemented and built the first draft scale to assess the impact of Sensory Marketing. After that, the research team conducted in-depth interviews with 5 people in Hanoi city and decided to remove inappropriate factors after careful discussion, in order to proceed to the second draft scale, from which a preliminary questionnaire was generated.

The questionnaire included personal information of respondents and measures of sensory elements affecting the intention to reuse the service of passengers. Multiple choice questions and 5-point Likert scale indicating increasing agreement from 1 to 5 were used in this study. Next, the authors built an official scale based on preliminary quantitative research results, ensuring accuracy and high reliability. Specifically, 100 survey questionnaires were sent to the respondents through an online form with 77 valid responses obtained in this step to check the relevance and accuracy of the second draft scale. Finally, this official scale and set of research questions were included in the official quantitative survey sent to people living and working in Hanoi.

In this study, the authors planned to approach a sample size of 500, and the actual received responses were 503. After screening and removing invalid answers, the authors obtained 460 valid responses for official research. These were then coded, entered and analyzed using SPSS 26.0 and SPSS AMOS 20 software. The steps of data processing take place in the following specific order: (i) Descriptive statistics on the demographic characteristics of the survey respondents; (ii) Cronbach's Alpha reliability coefficient analysis; (iii) Exploratory Factor Analysis (EFA); (iv) Confirmatory Factor Analysis (CFA); (v) SEM linear structural model analysis and hypothesis testing; (vi) Analysis of Variance (One-way ANOVA).

4. Research Results

Descriptive statistics on the demographic characteristics of the study sample

Table 1. Demographic characteristics of the study sample

No.	Characteristic	Frequency/ Quantity	Ratio (%)
1	Gender	Male	141
		Female	308
		Others	11
2	Age	Under 18 years old	33

		From 18 to 22 years old	219	47.6%
		From 23 to 30 years old	53	11.5%
		From 31 to 45 years old	81	17.6%
		From 46 to 60 years old	59	12.8%
		Over 60 years old	15	3.3%
3	Education level	General training	42	9.1%
		Bachelor's Degree	326	70.9%
		Master's/PhD/Doctorate Degree	92	20%
4	Occupation	Student	240	52.2%
		Office worker	117	25.4%
		Medical worker	31	6.7%
		Teacher	17	3.7%
		Service and sales employee	12	2.6%
		Retiree	12	2.6%
		Freelancer	11	2.4%
		Businessperson	5	1.1%

		Blue-collar worker	4	0.9%
		State official	4	0.9%
		Others	7	1.5%
5	Income	Under 5 million VND/month	16	3.5%
		From 5 million to less than 10 million VND/month	64	13.9%
		From 10 million to less than 20 million VND/month	201	43.7%
		From 20 million to less than 50 million VND/month	113	24.6%
		From 50 million VND/month onwards	66	14.3%

Source: Data analysis results of the research team (2022)

The sample size consisted of 460 respondents, in which the number of males and females accounted for 30.7% and 67% respectively. The most common age groups were 18-22 years old at 47.6% and 31-45 years old at 17.6%. Besides, in order to better understand the personal characteristics of the surveyees, the authors collected data about their education levels, occupations and income.

The obtained results showed that 326/460 respondents had a university/college degree, equivalent to 70.9%. In addition, the number of students also accounted for the largest proportion with 52.2% and the common income range of participants was from 10 million VND to less than 20 million VND per month (43.7%).

Preliminary assessment of measurement scales (Cronbach's Alpha)

Cronbach's Alpha analysis was used to evaluate the reliability of the measurement scales. Using SPSS 26.0 software, the authors have shown that Cronbach's Alpha coefficients of all groups exceeded 0.6 and correlation coefficients of all variables were greater than 0.3 (Hair et al., 2010) [53]. Therefore, all measurement scales with a total of 37 observed variables proceeded to the next step of Exploratory Factor Analysis (EFA).

Table 2. Results of Cronbach's Alpha coefficient analysis

No.	Measurement scale	No. of observed variables	Cronbach's Alpha coefficient	No. of variables eliminated
1	Visual (SI)	6	0.862	0/6
2	Auditory (HE)	5	0.915	0/5
3	Olfactory (SM)	5	0.907	0/5
4	Gustatory (TA)	5	0.876	0/5
5	Tactile (TO)	6	0.916	0/6
6	Brand Image (BI)	5	0.904	0/5
7	Reuse Intention (IN)	5	0.883	0/5

Source: Data analysis results of the research team (2022)

Exploratory Factor Analysis (EFA)

Exploratory Factor Analysis was utilized to preliminarily evaluate the unidirectionality, convergent and discriminant validity of the scale. The authors used SPSS 26.0 software to run EFA with the Principal Axis Factoring method and the Promax rotation.

Two variables were eliminated with low load factor (< 0.3) after the first EFA run. The Bartlett's coefficients showed that the remaining variables were well correlated ($\text{sig} = 0.000 < 0.05$), while the KMO coefficient = 0.932 ($0.5 < 0.932 < 1$) proved the suitability of using EFA analysis. The extracted variance was approximately 66.330% $> 50\%$ and the Eigenvalues index = 1.076 > 1 , which guaranteed that the EFA analysis results were accepted.

35 observed variables were grouped into 7 factors: Visual (5 variables); Auditory (5 variables); Olfactory (5 variables); Gustatory (4 variables); Tactile (6 variables); Brand Image (5 variables); and Reuse Intention (5 variables) - which will proceed to Confirmatory Factor Analysis (CFA).

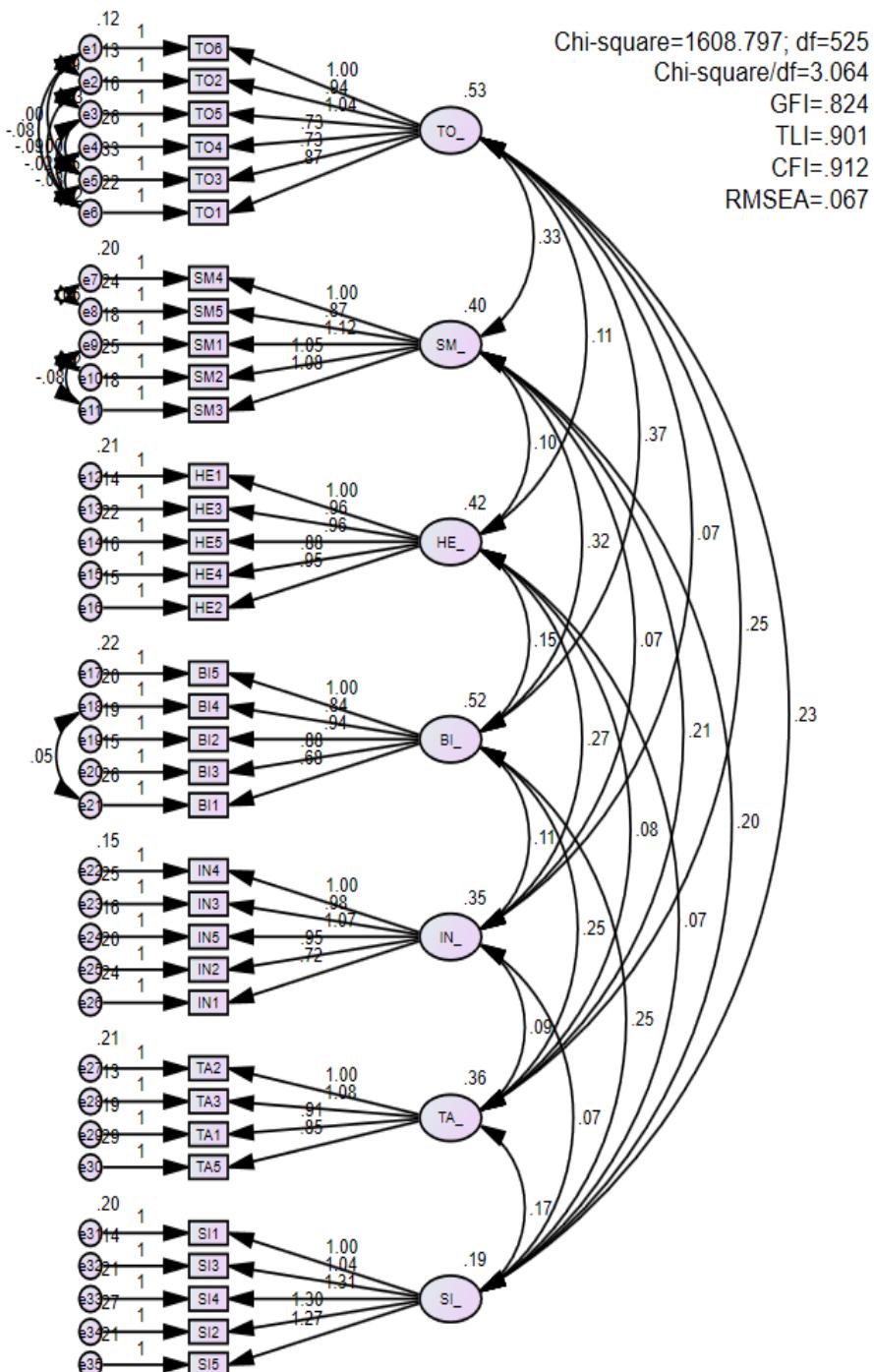
Confirmatory Factor Analysis (CFA)

The research team used SPSS AMOS 20 to perform Confirmatory Factor Analysis (CFA) of measurement scales and test the suitability of the theoretical model and hypotheses. The data used for this step had been evaluated by both Cronbach's Alpha coefficients and EFA.

To assess the suitability of the theoretical model, the authors used 4 evaluation metrics: Chi-square/df; GFI; CFI; and RMSEA. If a model has $\text{Chi-square/df} < 5$; $\text{GFI} \geq 0.8$, $\text{CFI} \geq 0.8$ and $\text{RMSEA} \leq 0.08$, it is considered suitable for the survey data set (Hair et al., 2010) [53].

The results showed that the proposed model was suitable for the data being used. Specifically, Chi-square/df = 3.064 < 5; GFI = 0.824 > 0.8; CFI = 0.912 > 0.8 and RMSEA = 0.067 < 0.08.

The p-value in the Regression Weights table was smaller than 0.05 for all observed variables. Moreover, all of them had coefficients in the Standardized Regression Weight exceeding 0.5. These results showed that the observed variables were significant in the model and had high relevance values.



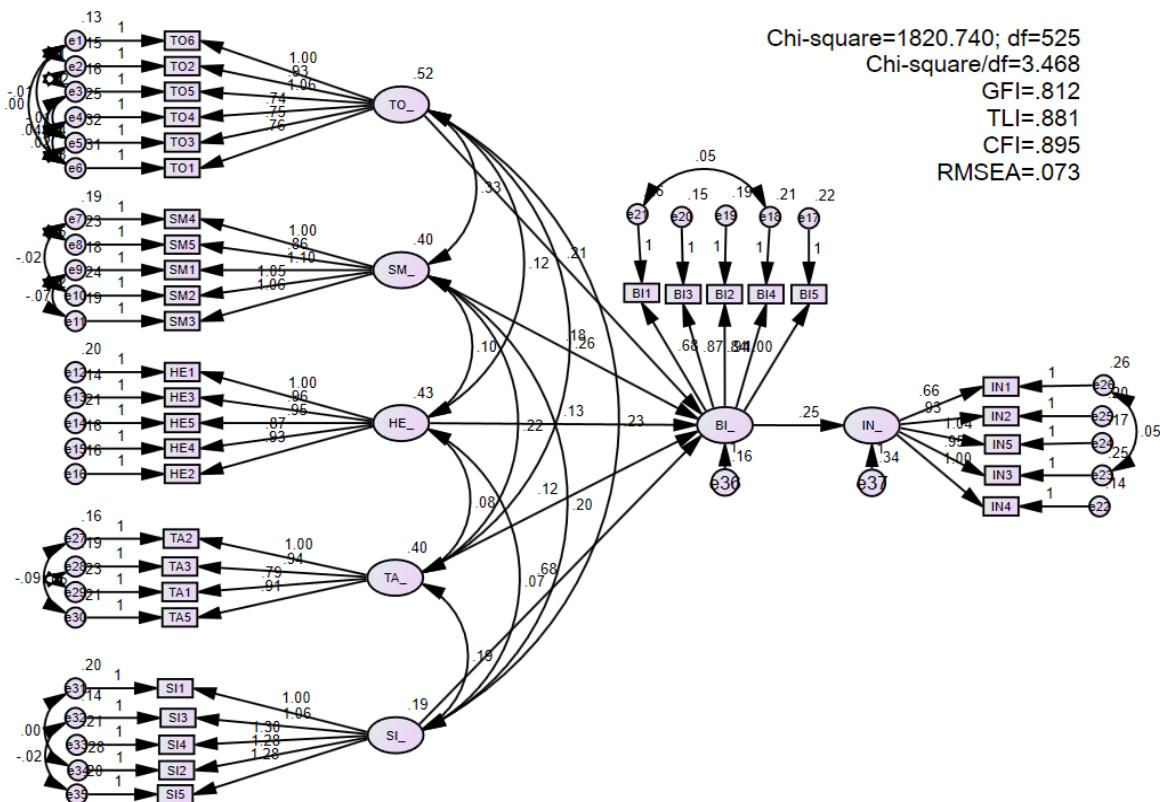
Source: Data analysis results of the research team (2022)

Fig.2. Results of CFA

Testing the research model and research hypotheses

Testing the research model

Next, the authors conducted SEM analysis to test the suitability of the research model. The evaluation metrics were: Chi-square/df = 3.468; GFI = 0.812; CFI = 0.895 and RMSEA = 0.073, which were all valid. The results showed that the research model was suitable with the data set.



Source: Data analysis results of the research team (2022)

Fig.3. Results of SEM

Testing the research hypotheses

After analyzing the structural equation model, the authors came up with the following test results:

Table 3. Results of hypothesis testing

Hypothesis		Estimate	S.E.	C.R.	P	Conclusion
H1	BI <--- SI	.682	.116	5.902	***	Accepted
H2	BI <--- HE	.128	.038	3.399	***	Accepted
H3	BI <--- SM	.185	.064	2.871	.004	Accepted

H4	BI <--- TA	.117	.055	2.133	.033	Accepted
H5	BI <--- TO	.214	.058	3.665	***	Accepted
H6	IN <--- BI	.247	.043	5.746	***	Accepted

In which, Estimate: Average estimated value; SE: Standard error; CR: Critical value; P: Probability value; ***: $p < 0.001$. (Source: Data analysis results of the research team (2022))

The results from the Unstandardized Regression Weights table revealed that all p-values met the statistical standard ($p < 0.05$), so all 6 hypotheses were accepted.

All of the independent variables namely Visual, Auditory, Olfactory, Gustatory, and Tactile had direct and positive effect on Brand Image. Based on the unstandardized regression weights, we could see that Visual elements had significant impact on Brand Image (0.682), which was followed by Tactile (0.214), Olfactory (0.185), Auditory (0.218), and finally Gustatory (0.117). In addition, the R squared value of Brand Image was $0.695 = 69.5\%$, which indicated that the independent variables (Visual, Auditory, Olfactory, Gustatory, and Tactile) determined 69.5% of the variance of Brand Image.

Brand Image also had a positive impact on the dependent variable Reuse Intention. The R squared value of Reuse Intention was $0.386 = 38.6\%$, or in other words, Brand Image explained 38.6% of the variance of Reuse Intention.

Analysis of Variance (One-way ANOVA)

Aiming at understanding and observing the differences in the intention to reuse airline services of passengers in specific groups according to the control variable, the research team used One-way ANOVA method for Demographic characteristics, including Gender, Age, Education level, Occupation, Income. The results illustrated that there were differences in the intention to use the service again at different ages. At the same time, there were also differences in the intention to reuse the service among passengers in different occupations and at different income levels. Based on these results, the authors proceeded to test the remaining hypotheses. Details as follows:

Table 4. Results of One-way ANOVA

Hypothesis		Sig. (Levene test)	Sig. (ANOVA test)	Sig. (Robust test)	Conclusion
H7a	There are differences in the intention to reuse the airline's services among different genders.	0.389>0.05	0.575>0.05		Denied

H7b	There are differences in the intention to reuse the airline's services among different age groups.	0.061>0.05	0.012<0.05		Accepted
H7c	There are differences in the intention to reuse the airline's services among passengers with different educational levels.	0.742>0.05	0.288>0.05		Denied
H7d	There are differences in the intention to reuse the airline's services among passengers in different occupations.	0.005<0.05		0.006<0.05	Accepted
H7e	There is a difference in the intention to reuse the airline's services among passengers at different income levels.	0.000<0.05		0.000<0.05	Accepted

Source: Data analysis results of the research team (2022)

5. Discussion, Research Limitations, Implications for Further Research

Discussing research results

Based on the research findings discussed above, the authors conclude that the model's hypotheses are accepted, and the link between the observed variables is positive. In comparison to other factors such as Tactile (0.214), Olfactory (0.185), Auditory (0.128), and Gustatory (0.117), Visual elements are the most influential factor on the Brand Image (0.682). Furthermore, compared to the indirect influence of sensory variables on intention to reuse the service, the direct impact of Brand Image on Reuse Intention is second most significant (0.247).

In general, each sensory aspect in Sensory Marketing positively impacts the desire to reuse Vietnam Airlines' aviation services, although not all relationships are strong enough. This means that people's intention to reuse

Vietnam Airlines's services in Hanoi is complicated; as a result, in order to increase consumers' reuse intention, Vietnam Airlines must design appropriate Sensory Marketing tactics. Therefore, the findings of this study will pave the way for the company's Sensory Marketing methods to attract clients and; as a result, strengthen the company's brand image, promoting the intention to utilize their services again.

New scientific contributions

Theoretically, the authors have created the first study model on each sensory element in Sensory Marketing that affects the intention to reuse, based on the fact that no other topic has explored this research issue. The following theories will be tested, and the scale will be adjusted with high reliability and accuracy, resulting in a new measurement scale in the Vietnamese aviation industry. In addition, the research team has quantified the strength of each sensory element in Sensory Marketing's impact on the brand image and the impact of the brand image on the intention to use Vietnam National Airlines' service again. EL, K., & Nguyen, M. (2021) mentioned it is good for education and confirmed by (Huy, D.T.N, 2015).

Practically, the research team has used Sensory Marketing variables to positively affect Hanoi residents' intention to reuse services through the brand image in the context of the aviation industry in Vietnam, where no one has ever had a topic using this theme before. Therefore, in order to strengthen and promote the efficiency of Sensory Marketing strategies, the team has suggested several recommendations and solutions for Vietnam Airlines in particular, as well as the aviation sector in general, helping to improve Vietnam Airlines' image and their customer service reuse rate.

Some recommendations

Each sensory aspect in Sensory Marketing has a favorable impact on brand image, and the indirect impact of visual factors has the most significant impact on the intention to use the service again. Furthermore, the research findings show that the company's brand image has a positive relationship with the intention to reuse the service, i.e. the more appealing its sensory factors are to customers, the more positive the firm's brand image is, and the greater the customer's ability to reuse airline services.

This result also reveals and validates that the firm needs to consider Sensory Marketing as a way to develop its brand image. In order for customers to fully perceive Vietnam Airlines' image, the company must deploy products and services that highlight and improve their sensory experiences more substantially. For instance, the company can connect the brand by associating their brand's image with the salient aspects of the customer group, making it easier for customers to recognize the brand by stimulating the senses, providing differentiation, personalization, and flexibility.

More specifically, in the context of numerous recent challenges and difficulties in the battle against the COVID-19 pandemic, along with the socioeconomic recovery in "the new normal", Vietnam Airlines must develop a proper Sensory Marketing strategy and creative marketing plans while adhering to all regulations and recommendations set forth by the Ministry of Health and the Ministry of Transport to ensure administration quality, which provide the best and safest travel experiences for passengers. This may improve the business situation, generate profits, assist

Vietnam Airlines in maintaining its position as the market leader in the Vietnamese civil aviation industry, or lay the groundwork for the company's long-term growth in the new era. Furthermore, a suitable strategy will impact tourism demand, ensuring the dual goals of disease prevention and control as well as the improvement of the national socioeconomic situation and tourism industry.

Research limitations

As the first team studying how Sensory Marketing affects the intention to reuse airline services in Vietnam, the authors find that the study still has certain limitations as follows:

First, regarding the study's scope. The research findings mentioned above may only apply to the Hanoi population.

Second, regarding the sampling method. Because of the study's limited capacity and resources, a non-probability sampling method (convenience sampling) obtained only 460 valid answer sheets. Therefore, the authors recognize that this sampling method is not highly representative.

Third, because the authors have only examined a specific firm which is Vietnam Airlines, the research findings may not apply to other airlines in Vietnam with distinct characteristics. However, other airlines can rely on some of our recommendations and solutions to improve service quality in their operations.

Fourth, the team's research topic focuses on customer experiences in Vietnam Airlines flights, rather than delving further into and defining the process of passengers' experiences both before and after the flight.

With these constraints, the authors expect that future research teams will address the issues mentioned above and make new contributions to scientific research, particularly in the aviation service industry.

Declarations

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Competing Interests Statement

The authors declare no competing financial, professional and personal interests.

Consent for publication

Authors declare that they consented for the publication of this research work.

References

- [1] Gatchalian, M.M. (1999). Quality assessment through statistically-based sensory evaluation methods. *The TQM Magazine*, 11(6): 389-396.
- [2] Krishna, A. (2015). Customer Sense: How the 5 Senses Influence Buying Behavior.
- [3] Keller, K. L. (1993). Conceptualizing, Measuring, and Managing Customer-Based Brand Equity. *Journal of Marketing*, 57(1): 1-22.

[4] Tuu, H., Anh, N., Olsen, S., & Vassdal, T. (2010). Explaining Repurchase Intention towards Fish: the Extension of the theory of Planned Behavior. International Institute of Fisheries Economics and Trade.

[5] Dinh Tran Ngoc Huy, Trung-Hieu Le, Tran Duc Thang, Nguyen Thi Hoa, Ly Thi Hue. (2021). Discussion on E-Learning Solutions for Students - and Issues of Technology Application in Classroom. Design Engineering, 11432 - 11443. Retrieved from <http://www.thedesignengineering.com/index.php/DE/article/view/4274>.

[6] DTN Huy, NT Hang, NT Dung. (2021). Marketing Strategy based on Competitor Analysis-A Case in Vietnam Medicine Sector , Revista Geintec-Gestao Inovacao E Tecnologias 11(3): 103-111.

[7] D Thi Ngu, DT Huong, DTN Huy, PT Thanh, ES Dongul. (2021). Language teaching application to English students at master's grade levels on history and macroeconomic-banking management courses in universities and colleges, Journal of Language and Linguistic Studies 17(3): 1457-1468.

[8] Do Thu Huong, Dinh Tran Ngoc Huy, Nguyen Thi Hang, Pham Thi Huyen Trang, Duong Thi Ngu. (2021). Discussion on Case Teaching Method in a Risk Management Case Study with Econometric Model at Vietnam Listed Banks - Issues Of Economic Education for Students, Review of Int Geographical Education, 11(5).

[9] DTN Huy. (2021). Banking sustainability for economic growth and socio-economic development-case in Vietnam, Turkish Journal of Computer and Mathematics Education, 12(2).

[10] DTN Huy. (2012). Estimating Beta of Viet Nam listed construction companies groups during the crisis , Journal of Integration and Development 15 (1): 57-71.

[11] Hieu, L.T., Huong, D.T., Huy, D.T.N., Dung, N.T.P., & Trung, N.D. (2021). Identifying learners' behavior from videos affects teaching methods of lecturers in Universities. Design Engineering, 11146-11157. Retrieved from <http://www.thedesignengineering.com/index.php/DE/article/view/4117>.

[12] Hac, L.D., Huy, D.T.N., Thach, N.N., Chuyen, B.M., Nhung, P.T.H., Thang, T.D., Anh, T.T. (2021). Enhancing risk management culture for sustainable growth of Asia commercial bank -ACB in Vietnam under mixed effects of macro factors, Entrepreneurship and Sustainability Issues, 8(3).

[13] Hang, T.T.B., Nhung, D.T.H., Hung, N.M., Huy, D.T.N., Dat, P.M. (2020). Where Beta is going-case of Viet Nam hotel, airlines and tourism company groups after the low inflation period, Entrepreneurship and Sustainability Issues, 7(3).

[14] Hang, N.T., Tinh, D.T., Huy, D.T.N., & Nhung, P.T.H. (2021). Educating and training labor force Under Covid 19; Impacts to Meet Market Demand in Vietnam during Globalization and Integration Era, Journal for Educators, Teachers and Trainers, 12(1): 179-184. DOI: 10.47750/jett.2021.12.01.023.

[15] Huy, D.T.N. (2015). The Critical Analysis of Limited South Asian Corporate Governance Standards After Financial Crisis, International Journal for Quality Research, 9(4): 741-764.

[16] Huy, D.T.N. (2012). Estimating Beta of Viet Nam listed construction companies groups during the crisis , Journal of Integration and Development, 15(1): 57-71.

[17] Rieunier, S. (2009). *Le marketing sensoriel du point de vente*. Dunod Edition, 3rd Edition.

[18] Cirrincione, A., Estes, Z., & Carù, A. (2014). The effect of ambient scent on the experience of art: Not as good as it smells. *Psychology & Marketing*, 31(8): 615-627.

[19] Guéguen, N., & Petr, C. (2006). Odors and consumer behavior in a restaurant. *International Journal of Hospitality Management*, 25: 335-339.

[20] Mattila, A. S., & Wirtz, J. (2001). Congruency of scent and music as a driver of in-store evaluations and behavior. *Journal of retailing*, 77(2): 273-289.

[21] Olahut, M. R., El-Murad, J., & Plaias, I. (2012). Store atmosphere: Conceptual issues and its impact on shopping behavior. In The Proceedings of the International Conference "Marketing-from Information to Decision" (p. 317). Babes Bolyai University.

[22] Hussain, S. (2018). Brand image and customer loyalty through sensory marketing strategies-a study on international fast food chain restaurants. *International Journal of Management Studies*, 2(7): 32-39.

[23] Lau, V. (2017). Sensory perceptions of Asian destinations. *Critical Tourism Studies Proceedings*, 1: 158.

[24] Le, K., & Nguyen, M. (2021). Education and political engagement, *Int J of Educational Development*, 85.

[25] Perumal, S., Ali, J., & Shaarih, H. (2021). Exploring nexus among sensory marketing and repurchase intention: Application of SOR Model. *Management Science Letters*, 11(5): 1527-1536.

[26] Yoganathan, V., Osburg, V. S., & Akhtar, P. (2019). Sensory stimulation for sensible consumption: Multisensory marketing for e-tailing of ethical brands. *Journal of Business Research*, 96: 386-396.

[27] Suh, M., Moon, H., Han, H., & Ham, S. (2015). Invisible and intangible, but undeniable: Role of ambient conditions in building hotel guests' loyalty. *Journal of Hospitality Marketing & Management*, 24(7): 727-753.

[28] Bitner, M. J. (1992). Servicescapes: The impact of physical surroundings on customers and employees. *Journal of marketing*, 56(2): 57-71.

[29] Han, H., & Ryu, K. (2009). The roles of the physical environment, price perception, and customer satisfaction in determining customer loyalty in the restaurant industry. *J of hospitality & tourism research*, 33(4): 487-510.

[30] Rosenbaum, M. S., & Massiah, C. (2011). An expanded servicescape perspective. *Journal of Service Management*.

[31] Ryu, K., & Jang, S. S. (2007). The effect of environmental perceptions on behavioral intentions through emotions: The case of upscale restaurants. *Journal of Hospitality & Tourism Research*, 31(1): 56-72.

[32] Wijaya, B. S. (2013). Dimensions of brand image: A conceptual review from the perspective of brand communication. *European Journal of Business and Management*, 5(31): 55-65.

[33] Chen, H. S., & Hsieh, T. (2011). The effect of atmosphere on customer perceptions and customer behavior responses in chain store supermarkets. *African Journal of Business Management*, 5(24): 10054-10066.

[34] Arif, M. E. (2019). The influence of electronic word of mouth (eWOM), brand image, and price on re-purchase intention of airline customers. *Jurnal Aplikasi Manajemen*, 17(2): 345-356.

[35] Hu, H. H., Kandampully, J., & Juwaheer, T. D. (2009). Relationships and impacts of service quality, perceived value, customer satisfaction, and image: an empirical study. *The service industries journal*, 29(2): 111-125.

[36] Park, J. W., Robertson, R., & Wu, C. L. (2004). The effect of airline service quality on passengers' behavioural intentions: a Korean case study. *Journal of Air Transport Management*, 10(6): 435-439.

[37] Geraldine, O. (2013). Effects of airline service quality on airline image and passengers loyalty: Findings from Arik Air Nigeria passengers. *Journal of Hospitality Management and Tourism*, 4(2): 19-28.

[38] Pol, L. G. (1991). Demographic contributions to marketing: an assessment. *Journal of the Academy of Marketing Science*, 19(1): 53-59.

[39] Andreasen, A. R. (1966). Geographic mobility and market segmentation. *Journal of Marketing Research*, 3(4): 341-348.

[40] Bearden, W. O., Teel, J. E., Williams, R. H., & Durand, R. M. (1978). Exposing organizational buyers to consumer magazine advertisements. *Industrial Marketing Management*, 7(6): 379-386.

[41] Martineau, P. (1958). Social glasses and spending behavior. *Journal of Marketing*, 23(2): 121-130.

[42] McCann, J. M., & Reibstein, D. J. (1985). Forecasting the impact of socioeconomic and demographic change on product demand. *Journal of Marketing Research*, 22(4): 415-423.

[43] Miller, J. G. (1955). Toward a general theory for the behavioral sciences. *American Psychologist*, 10(9): 513.

[44] Wolgast, E. H. (1958). Do husbands or wives make the purchasing decisions?. *J of Marketing*, 23(2): 151-158.

[45] Zeithaml, V. A. (1985). The new demographics and market fragmentation. *Journal of marketing*, 49(3): 64-75.

[46] Alam, M. R. (2012). Demographic influence on brand preference towards budget airline in UAE. *International Journal of Applied Research & Studies*, I: 1-8.

[47] Eagly, A. H. (1987). Reporting sex differences.

[48] Diep, V. C. S., & Sweeney, J. C. (2008). Shopping trip value: do stores and products matter?. *Journal of retailing and consumer services*, 15(5): 399-409.

[49] Fournier, S. (1998). Consumers and their brands: Developing relationship theory in consumer research. *Journal of consumer research*, 24(4): 343-373.

[50] Hwang, J., Han, H., & Kim, S. (2015). How can employees engage customers? Application of social penetration theory to the full-service restaurant industry by gender. *International Journal of Contemporary Hospitality Management*, 27(6), 1117-1134.

[51] Kolyesnikova, N., Dodd, T. H., & Wilcox, J. B. (2009). Gender as a moderator of reciprocal consumer behavior. *Journal of Consumer Marketing*, 26(3), 200-213.

[52] Milman, A., & Pizam, A. (1988). The social impact of tourism in central Florida. *Annals of Tourism Research*, 15(2), 191-204.

[53] Otnes, C., & McGrath, M. A. (2001). Perceptions and realities of male shopping behavior. *Journal of Retailing*, 77(1), 111-137.

[54] Yelkur, P., & Chakrabarty, S. (2006). Gender differences in service quality expectations in the fast food industry. *Services Marketing Quarterly*, 27(4), 141-151.

[55] Sharma, P., Chen, I. S. N., & Luk, S. T. K. (2012). Gender and age as moderators in the service evaluation process. *Journal of Services Marketing*, 26(2), 102-114.

[56] Han, H., Meng, B., & Kim, W. (2017). Bike-traveling as a growing phenomenon: Role of attributes, value, satisfaction, desire, and gender in developing loyalty. *Tourism Management*, 59, 91-103.

[57] Prud'homme, B., & Raymond, L. (2013). Sustainable development practices in the hospitality industry: An empirical study of their impact on customer satisfaction and intentions. *International Journal of Hospitality Management*, 34, 116-126.

[58] Shang, J., Basil, D. Z., & Wymer, W. (2010). Using social marketing to enhance hotel reuse programs. *Journal of Business Research*, 63(2), 166-172.

[59] Richardson, H., Paul S., Alan S. Dick and Arun K. J. (1996). Household store brand proneness: a framework. *Journal of Retailing*, 72(2), 159-185.